EXHIBIT V:

Claim Chart for the '189 Patent

CLAIM CHART OUTLINE: LARRY GOLDEN vs. THE UNITED STATES
(CASE NUMBER: 13-307 C)

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"TOUGHBOOK 31" Laptop K-Max Self-flying Helicopter	Patent #: 9,096,189; Independent Claim 1	Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)

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K-Max Self-flying Helicopter	Patent #: RE 43,891; Independent Claim 44	Patent #: RE 43,891; Dependent Claims (55, 45, 48, 53, 52)

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Apple iPAD Tablet Boeing MH-6 Little Bird Helicopter	Patent #: 9,096,189; Independent Claim 1	Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)

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Boeing MH-6 Little Bird Helicopter	Patent #: RE 43,891; Independent Claim 23	Patent #: RE 43,891; Dependent Claims (55, 27, 31, 30)

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iControl Inc. "mLOCK"	Patent #: RE 43'990; Independent Claim 125	Patents: 8,106,752; RE 43,990; Dependent Claims (36); (148, 135, 35, 39, 44)

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NRL: SIN-VAPOR / Smartphone System	Patent #: 9,096,189; Independent Claim 4	Patent #: RE 43,990; Dependent Claims (118, 122, 124, 108)

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Northrop Grumman X-47B UCAS X-47B Control Display Unit (CDU)	**Patent #: RE 43,891; Independent Claim 11**	**Patent #: RE 43,891; Dependent Claims (19, 27, 15, 21)**

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GammaPix for Android Smartphones	Patent #: 9,096,189; Independent Claim 5	Patent #: RE 43,990; Dependent Claims (119, 17, 124, 108)

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Smartphone (iPhone) Biosensor "Cradle"	Patent #: 9,096,189; Independent Claim 7	Patent #: RE 43,990; Dependent Claims (118, 17, 92, 25, 12, 124, 99)

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MIT: "NFC" Samsung Galaxy s6 Smartphone Sensor	Patent #: 9,096,189; Independent Claim 3	Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20)

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"Cell-All": Synkera MikroKera Ultra	Patent #: 7,385,497; Independent Claim 1	Patents: 7,385,497; 8,106,752; & RE 43,990; Dependent Claims (2, 4); (34, 37); (119, 29)

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"Cell-All": Samsung Galaxy s6	Patent #: 9,096,189; Independent Claim 2	Patents: 8,106,752; & RE 43,990; Dependent Claims (34); (18, 12, 28, 25, 20, 124)

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"Cell-All": Apple iPhone	Patent #: 9,096,189; Independent Claim 8	Patents: 8,106,752; & RE 43,990; Dependent Claims (34); (118, 17, 92, 25, 124)

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"Biotouch" Samsung Galaxy s6	**Patent #: 9,096,189; Independent Claim 1**	**Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)**
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"Biotouch System" / "Nett Warrior" Smartphone System	**Patent #: 9,096,189; Independent Claim 5**	**Patent #: RE 43,990; Dependent Claims (119, 17, 124, 108)**
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iPhone "Biodetector" Smartphone	**Patent #: 9,096,189; Independent Claim 4**	**Patent #: RE 43,990; Dependent Claims (118, 122, 124, 108)**
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Navy Marine Corps Intranet (NMCI) Network - Apple iPad	**Patent #: 9,096,189; Independent Claim 1**	**Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)**
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Navy Marine Corps Intranet (NMCI) Network - Samsung Galaxy s6	**Patent #: 9,096,189; Independent Claim 2**	**Patents: 8,106,752; & RE 43,990; Dependent Claims (34); (18, 12, 28, 25, 20, 124)**

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Navy Marine Corps Intranet (NMCI) Network - Samsung Galaxy s6	Patent #: 9,096,189; Independent Claim 3	Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20)

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FLIR: identiFINDER R300 / Smartphone System	Patent #: 9,096,189; Independent Claim 4	Patent #: RE 43,990; Dependent Claims (118, 122, 124, 108)

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AOptix Stratus MX Peripheral for the Apple (iPhone) Smartphone	Patent #: 9,096,189; Independent Claim 7	Patent #: RE 43,990; Dependent Claims (118, 17, 92, 25, 12, 124, 99)

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MultiRae Pro Wireless Portable Multi Threat Radiation and Chemical Detector	Patent #: 9,096,189; Independent Claim 5	Patent #: RE 43,990; Dependent Claims (119, 79, 124, 78)

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PositiveID - Boeing / M-Band Apple (iPhone) Smartphone	Patent #: 9,096,189; Independent Claim 7	Patent #: RE 43,990; Dependent Claims (118, 17, 92, 25, 12, 124, 99)

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PositiveID / "Firefly DX" Samsung Galaxy s6 Smartphone	Patent #: 9,096,189; Independent Claim 1	Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)

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2"x2" Detection Device (DD) Samsung Galaxy s6 Smartphone	Patent #: 7,385,497; Independent Claim 1	Patents: 7,385,497; 8,106,752; & RE 43,990; Dependent Claims (2, 4); (34, 37); (119, 29)

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1"x2" Detection Device (DD) Samsung Galaxy s6 Smartphone	Patent #: 9,096,189; Independent Claim 2	Patents: 8,106,752; & RE 43,990; Dependent Claims (34); (18, 12, 28, 25, 20, 124)

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NetS² SmartShield G300 Radiation Detector Samsung Galaxy s6 Smartphone	Patent #: 7,385,497; Independent Claim 1	Patents: 7,385,497; 8,106,752; & RE 43,990; Dependent Claims (2, 4); (34, 37); (119, 29)

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NetS² SmartShield G500 Radiation Detector Samsung Galaxy s6 Smartphone	Patent #: 9,096,189; Independent Claim 2	Patents: 8,106,752; & RE 43,990; Dependent Claims (34); (18, 12, 28, 25, 20, 124)

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"TOUGHBOOK 31" Laptop Passport Systems Inc. Base Control Unit (BCU)	Patent #: 9,096,189; Independent Claim 1	Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)

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Oshkosh Defense Autonomous Unmanned Ground Vehicle (UGV) "TerraMax"	**Patent #: RE 43,891; Independent Claim 44**	**Patent #: RE 43,891; Dependent Claims (55, 27)**

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Dream Hammer's "Ballista" Software for Computer, Tablet or Smartphone	**Patent #: RE 43,891; Independent Claim 44**	**Patent #: RE 43,891; Dependent Claims (55, 27)**

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"COINS" Nano-Embedded Sensors for Smartphones	**Patent #: 9,096,189; Independent Claim 1**	**Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)**

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Variable's "NODE+Oxa" for the Apple (iPhone) Smartphone	**Patent #: 9,096,189; Independent Claim 1**	**Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)**

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Smartphone-Based Rapid Diagnostic Tests	**Patent #: 9,096,189; Independent Claim 1**	**Patent #: RE 43,990; Dependent Claims (18, 12, 28, 25, 20, 32, 30)**

"TOUGHBOOK 31" Laptop K-Max Self-flying Helicopter	Patent #: 9,096,189; Independent Claim 1	Patent #: RE 43,990; Dependent Claims
The Lockheed Martin K-Max unmanned helicopter is controlled from a Panasonic "TOUGHBOOK 31" Laptop. K-Max has pre-programmed load pick-ups; can fly to pre-programmed and non pre-programmed locations; controller uses beyond-line-of-sight (BLOS) from a video camera mounted in cockpit.	A communication device of at least one of a cell phone, a smart phone, a desktop, a handheld, a PDA, a laptop, or a computer terminal for monitoring products, interconnected to a product for communication therebetween, comprising:	18. The communication device [of claim 11] wherein the communication device having a basic monitoring terminal can be adapted and incorporated to include desktop computers, notebook, PC's, laptops, cell phones, smart phones, LCD monitors, and satellite monitoring.
CPU: Intel® Core™ i5-3380M vPro™ Processor; 2.9GHz with Turbo Boost up to 3.6GHz; Intel Smart Cache 3MB; Intel® Core™ i5-3340M vPro™ Processor; 2.7GHz with Turbo Boost up to 3.4GHz; Intel Smart Cache 3MB; Intel® Core™ i3-3120M Processor; 2.5GHz; Intel Smart Cache 3MB	at least one of a central processing unit (CPU) for executing and carrying out the instructions of a computer program, a network processor which is specifically targeted at the networking application domain, or a front end processor for communication between a host computer and other devices;	12. The communication device [of claim 11] wherein each communication device includes at least one of an internet connection, a GPS connection, a radio frequency (RF) connection, or a central processing unit (cpu).
Hard Disk Lock; Kensington cable lock slot	a transmitter for transmitting signals and messages to at least one of plurality product groups based on the categories of a multi-sensor detection device, a maritime cargo container, a cell phone detection device, or a locking device	28. The communication device [of claim 11] wherein the communication device can send and receive signals, send and receive warnings, send and receive commands, send and receive data, information and report the status of the sensors and operational equipment systems to and from a cell phone, smart phone, PDA or handheld device.

Hard Disk Lock; Kensington cable lock slot	a receiver for receiving signals, data or messages from at least one of plurality product groups based on the categories of a multi-sensor detection device, a maritime cargo container, a cell phone detection device, or a locking device;	28. The communication device [of claim 11] wherein the communication device can send and receive signals, send and receive warnings, send and receive commands, send and receive data, information and report the status of the sensors and operational equipment systems to and from a cell phone, smart phone, PDA or handheld device.
Optional integrated 4G LTE multi carrier mobile broadband with satellite GPS; Optional GPS (SiRFstarIII™); Intel® Centrino® Advanced-N 6235 802.11a/b/g/n; Bluetooth® v4.0 + EDR (Class 1);	at least one satellite connection, Bluetooth connection, WiFi connection, internet connection, radio frequency (RF) connection, cellular connection, broadband connection, long and short range radio frequency (RF) connection, or GPS connection;	25. The communication device [of claim 11] wherein the communication device has at least one of a Bluetooth connection, a Wi-Fi connection, a short and long range radio frequency connection, a Cellular connection, a satellite connection, and a GPS connection.
Wireless: n Optional integrated 4G LTE multi carrier mobile broadband with satellite GPS; Optional GPS (SiRFstarIII™); Intel® Centrino® Advanced-N 6235 802.11a/b/g/n; Bluetooth® v4.0 + EDR (Class 1); Security; Authentication: LEAP, WPA, 802.1x, EAP-TLS, EAP-FAST, PEAP; Encryption: CKIP, TKIP, 128-bit and 64-bit WEP, Hardware AES; User-selectable antenna pass-through (dual standard, single optional); Slide on/off switch	the communication device is at least a fixed, portable or mobile communication device interconnected to a fixed, portable or mobile product, capable of wired or wireless communication therebetween;	20. The communication device [of claim 11] wherein the communication device can be interconnected through wire or wireless for communication, signals, commands and transmission of data.

Security features: Password Security: Supervisor, User, Hard Disk Lock; Kensington cable lock slot; Trusted platform module (TPM) security chip v.1.22; Computrace theft protection agent in BIOS8; Intel® Anti-Theft Technology; Optional fingerprint reader; Optional insertable SmartCard reader	whereupon the communication device, is interconnected to a product equipped to receive signals from or send signals to lock or unlock doors, activate or deactivate security systems, activate or deactivate multi-sensor detection systems, or to activate or deactivate cell phone detection systems;	28. The communication device [of claim 11] wherein the communication device can send and receive signals, send and receive warnings, send and receive commands, send and receive data, information and report the status of the sensors and operational equipment systems to and from a cell phone, smart phone, PDA or handheld device.
Integrated Options: 4G LTE multi carrier mobile broadband with satellite GPS; GPS (SiRFstarIII™); Webcam2; 2nd LAN (10/100)2 or Modem; Insertable SmartCard reader; Fingerprint reader; Media bay 2nd battery1 Security features: Password Security: Supervisor, User, Hard Disk Lock; Kensington cable lock slot; Trusted platform module (TPM) security chip v.1.22; Computrace theft protection agent in BIOS8; Intel® Anti-Theft Technology; Optional fingerprint reader; Optional insertable SmartCard reader	wherein the communication device receives a signal via any of one or more products listed in any of the plurality of product grouping categories;	32. The communication device [of claim 11] wherein the communication device having products to be monitored, the devices that are monitoring, communication devices, communication equipment can be grouped into anti-terrorist product groupings based on the categories of similarities of design of at least one of; sensors, software, interfaces, detector cases, locks, mobile communication devices, handheld communication devices, vehicle slowing and stopping devices, specification, development and implementation; similarities in material composition... ; similarities in security problems of at least one of; theft, detection for chemical, biological, radiological, nuclear, explosive compounds and agents, detection for weapons of mass destruction, biometrics for identifying terrorist, scanning to identify a terrorist threat; grouping security devices to form a network of ubiquitous sensing and detecting.

Bluetooth® v4.0 + EDR (Class 1)	wherein at least one satellite connection, Bluetooth connection, WiFi connection, internet connection, radio frequency (RF) connection, cellular connection, broadband connection, long and short range radio frequency (RF) connection is capable of signal communication with the transmitter and the receiver of the communication device and transceivers of the products;	25. The communication device [of claim 11] wherein the communication device has at least one of a Bluetooth connection, a Wi-Fi connection, a short and long range radio frequency connection, a Cellular connection, a satellite connection, and a GPS connection.
Fingerprint reader. Security; Authentication: LEAP, WPA, 802.1x, EAP-TLS, EAP-FAST, PEAP	wherein the communication device is equipped with a biometric lock disabler that incorporates at least one of a fingerprint recognition, voice recognition, face recognition, hand geometry, retina scan, iris scan and signature such that the communication device that is at least one of the cell phone, the smart phone, the desktop, the handheld, the PDA, the laptop or the computer terminal is locked by the biometric lock disabler to prevent unauthorized use;	30. The communication device [of claim 11] wherein the communication device is designed to be used with or without biometrics for authentication and identification, with at least one of a fingerprint recognition, voice recognition, face recognition, hand geometry, retina scan, iris scan, heart rate, pulse or signature, thereby allowing access to the product by authorized, trained, and equipped individuals and preventing access to the product by unauthorized, untrained, and unequipped individuals.
Optional integrated 4G LTE multi carrier mobile broadband with satellite GPS; Intel® Centrino® Advanced-N 6235 802.11a/b/g/n; Bluetooth® v4.0 + EDR (Class 1)	wherein the only type or types of communication with the transmitter and the receiver of the communication device and transceivers of the products is a type or types selected from the group consisting of satellite, Bluetooth, WiFi, internet, radio frequency (RF), cellular, broadband, and long and short range radio frequency (RF).	25. The communication device of [claim 11] wherein the communication device has at least one of a Bluetooth connection, a Wi-Fi connection, a short and long range radio frequency connection, a Cellular connection, a satellite connection, and a GPS connection.

"K-Max Self-flying Helicopter	Patent #: RE 43,891; Independent Claim 44	Patent #: RE 43,891; Dependent Claims
The K-MAX self-flying vehicle can be flown by a human sitting in the cockpit, but it cannot be completely remotely piloted; someone on ground controlling everything the helicopter does. A ground controller can, however, use satellite communication and a laptop to change the mission at any point during flight. Retrofitted Device: Autonomous Aerial Cargo/Utility System (AACUS)	A vehicles' stall-to-stop system or vehicle slowdown system in signal communication with a pre-programmed automated system is adapted, modified, or designed to control the vehicles' stall-to-stop means or vehicle slowdown means, comprising:	55. The vehicles' stall-to-stop means or the vehicles' slowdown means [of claim 44], further can be adapted, modified or designed to include a vehicle designed to perform as a driverless or autonomous vehicle for stopping or slowing a vehicle that is in operation with or without a user, driver or operator inside the vehicle.
NASA has identified LIDAR as a key technology for enabling autonomous precision safe landing of future robotic and crewed lunar-landing vehicles. Lidar sensors that are mounted on mobile platforms such as airplanes. Components to a LIDAR system: Laser 2-Scanner and optics 3- Photodetector and receiver electronics 4-Position and navigation systems	an electrical system in electrical communication with at least one of a brake, a foot peddle, a radar, a camera, a navigational system, a light, a speed control, an ignition system, a steering wheel, a transmission, a fuel system, and a motor;	45. The vehicles' stall-to-stop means or the vehicles' slowdown means [of claim 44], further can be adapted, modified or designed to include a global positioning system (GPS) receiver adapted for communication with at least one satellite.
K-max is equipped with Autonomous Aerial Cargo/Utility System (AACUS) technology, which combines advanced algorithms with LIDAR. Lidar uses ultraviolet, visible, or near infrared light to image objects. LIDAR instruments fitted to aircraft and satellites carry out surveying and mapping.	a computer system in signal transmission communication with at least one of the brake, the foot peddle, the radar, the camera, the navigational system, the light, the speed control, the ignition system, the steering wheel, the transmission, the fuel system, and the motor;	48. The vehicles' stall-to-stop means or the vehicles' slowdown means [of claim 44], further can be adapted, modified or designed to include a vehicle system designed to perform as a pre-crash system for stopping or slowing a vehicle to prevent a crash.

Apple iPAD Tablet Boeing MH-6 Little Bird Helicopter	Patent #: 9,096,189; Independent Claim 1	Patent #: RE 43,990; Dependent Claims
Navy engineers developed a Carbon Monoxide Sensor package that turns any helicopter with a digital flight control system into an autonomous cargo delivery robot. An authorized person is able to land a full-size Aurora Flight Services little bird helicopter by simply touching a map application on a handheld tablet computer, said Chief of Naval Research Rear. Adm. Matthew Klunder. With an iPad the system can autonomously deliver supplies.	A communication device of at least one of a cell phone, a smart phone, a desktop, a handheld, a PDA, a laptop, or a computer terminal for monitoring products, interconnected to a product for communication therebetween, comprising:	18. The communication device [of claim 11] wherein the communication device having a basic monitoring terminal can be adapted and incorporated to include desktop computers, notebook, PC's, laptops, cell phones, smart phones, LCD monitors, and satellite monitoring.
Apple chip A8X delivers better CPU and graphics performance than its predecessor. With its 64-bit desktop-class architecture, iPad Air 2 is as powerful as many personal computers. It's power efficient, too, with a 10-hour battery life. Apple A4 is based on the ARM processor architecture. The first version released runs at 1 GHz for the iPad and contains an ARM Cortex-A8 CPU core.	at least one of a central processing unit (CPU) for executing and carrying out the instructions of a computer program, a network processor which is specifically targeted at the networking application domain, or a front end processor for communication between a host computer and other devices;	12. The communication device [of claim 11] wherein each communication device includes at least one of an internet connection, a GPS connection, a radio frequency (RF) connection, or a central processing unit (cpu).
If your iPhone, iPad, or iPod touch is lost or stolen. Turn on Lost Mode. Using Lost Mode, a person can remotely lock the device with a four-digit passcode, and display a custom message with your phone number on your missing device's Lock screen	a transmitter for transmitting signals and messages to at least one of plurality product groups based on the categories of a multi-sensor detection device, a maritime cargo container, a cell phone detection device, or a locking device	28. The communication device [of claim 11] wherein the communication device can send and receive signals, send and receive warnings, send and receive commands, send and receive data, information and report the status of the sensors and operational equipment systems to and from a cell phone, smart phone, PDA or handheld device.

If your iPhone, iPad, or iPod touch is lost or stolen. Turn on Lost Mode. Using Lost Mode, a person can remotely lock the device with a four-digit passcode, and display a custom message with your phone number on your missing device's Lock screen	a receiver for receiving signals, data or messages from at least one of plurality product groups based on the categories of a multi-sensor detection device, a maritime cargo container, a cell phone detection device, or a locking device;	28. The communication device [of claim 11] wherein the communication device can send and receive signals, send and receive warnings, send and receive commands, send and receive data, information and report the status of the sensors and operational equipment systems to and from a cell phone, smart phone, PDA or handheld device.
Every iPad ever made has both WiFi and Bluetooth, two wireless technologies for connecting to nearby devices (in the case of Bluetooth) and the internet (in the case of WiFi). The cellular service, originally called 3G and now called LTE; this option allows the iPad to connect to the internet anywhere cell phone works, to check emails.	at least one satellite connection, Bluetooth connection, WiFi connection, internet connection, radio frequency (RF) connection, cellular connection, broadband connection, long and short range radio frequency (RF) connection, or GPS connection;	25. The communication device [of claim 11] wherein the communication device has at least one of a Bluetooth connection, a Wi-Fi connection, a short and long range radio frequency connection, a Cellular connection, a satellite connection, and a GPS connection.
Every iPad ever made has both WiFi and Bluetooth, two wireless technologies for connecting to nearby devices (in the case of Bluetooth) and the internet (in the case of WiFi).	the communication device is at least a fixed, portable or mobile communication device interconnected to a fixed, portable or mobile product, capable of wired or wireless communication therebetween;	20. The communication device [of claim 11] wherein the communication device can be interconnected through wire or wireless for communication, signals, commands and transmission of data.

If your iPhone, iPad, or iPod touch is lost or stolen. Turn on Lost Mode. Using Lost Mode, a person can remotely lock the device with a four-digit passcode, and display a custom message with your phone number on your missing device's Lock screen	whereupon the communication device, is interconnected to a product equipped to receive signals from or send signals to lock or unlock doors, activate or deactivate security systems, activate or deactivate multi-sensor detection systems, or to activate or deactivate cell phone detection systems;	28. The communication device [of claim 11] wherein the communication device can send and receive signals, send and receive warnings, send and receive commands, send and receive data, information and report the status of the sensors and operational equipment systems to and from a cell phone, smart phone, PDA or handheld device.
The Apple iPad communication device receives signals from the products to be monitored (e.g. Aurora Flight Services Little Bird Helicopter; the Autonomous Aerial Cargo/Utility System--AACUS) and any of the products grouped by similarities of design.	wherein the communication device receives a signal via any of one or more products listed in any of the plurality of product grouping categories;	32. The communication device [of claim 11] wherein the communication device having products to be monitored, the devices that are monitoring, communication devices, communication equipment can be grouped into anti-terrorist product groupings based on the categories of similarities of design of at least one of; sensors, software, interfaces, detector cases, locks, mobile communication devices, handheld communication devices, vehicle slowing and stopping devices, specification, development and implementation; similarities in material composition... ; similarities in security problems of at least one of; theft, detection for chemical, biological, radiological, nuclear, explosive compounds and agents, detection for weapons of mass destruction, biometrics for identifying terrorist, scanning to identify a terrorist threat; grouping security devices to form a network of ubiquitous sensing and detecting.

Every iPad ever made has both WiFi and Bluetooth, two wireless technologies for connecting to nearby devices (in the case of Bluetooth) and the internet (in the case of WiFi). The cellular service, originally called 3G and now called LTE; this option allows the iPad to connect to the internet anywhere cell phone works, to check emails.	wherein at least one satellite connection, Bluetooth connection, WiFi connection, internet connection, radio frequency (RF) connection, cellular connection, broadband connection, long and short range radio frequency (RF) connection is capable of signal communication with the transmitter and the receiver of the communication device and transceivers of the products;	25. The communication device [of claim 11] wherein the communication device has at least one of a Bluetooth connection, a Wi-Fi connection, a short and long range radio frequency connection, a Cellular connection, a satellite connection, and a GPS connection.
Apple's "Touch ID"; a fingerprint identity sensor that makes it easy to get into the iPad device. The biometric "Touch ID" is used with the iPhone 5s or later, iPad Pro, iPad Air 2, or iPad mini 3 or later.	wherein the communication device is equipped with a biometric lock disabler that incorporates at least one of a fingerprint recognition, voice recognition, face recognition, hand geometry, retina scan, iris scan and signature such that the communication device that is at least one of the cell phone, the smart phone, the desktop, the handheld, the PDA, the laptop or the computer terminal is locked by the biometric lock disabler to prevent unauthorized use;	30. The communication device [of claim 11] wherein the communication device is designed to be used with or without biometrics for authentication and identification, with at least one of a fingerprint recognition, voice recognition, face recognition, hand geometry, retina scan, iris scan, heart rate, pulse or signature, thereby allowing access to the product by authorized, trained, and equipped individuals and preventing access to the product by unauthorized, untrained, and unequipped individuals.

Every iPad ever made has both WiFi and Bluetooth, two wireless technologies for connecting to nearby devices (in the case of Bluetooth) and the internet (in the case of WiFi). The cellular service, originally called 3G and now called LTE; this option allows the iPad to connect to the internet anywhere cell phone works, to check emails.	wherein the only type or types of communication with the transmitter and the receiver of the communication device and transceivers of the products is a type or types selected from the group consisting of satellite, Bluetooth, WiFi, internet, radio frequency (RF), cellular, broadband, and long and short range radio frequency (RF).	25. The communication device of [claim 11] wherein the communication device has at least one of a Bluetooth connection, a Wi-Fi connection, a short and long range radio frequency connection, a Cellular connection, a satellite connection, and a GPS connection.

NRL: SIN-VAPOR / Smartphone System	Patent #: 9,096,189; Independent Claim 4	Patent #: RE 43,990; Dependent Claims
Developed by the U.S. Naval Research Laboratory (NRL) in Washington, D.C., the silicon nanowires in a vertical array with a porous electrode (SiN-VAPOR) sensor: In addition to detecting chemical weapons or explosives, the sensor can be used for identifying biological agents Dr. Christopher Field, the lead NRL scientist on the SiN-VAPOR research team is working with the NRL's biological research group to apply the sensor in this area.	A built-in, embedded multi sensor detection system for monitoring products with a plurality of sensors detecting at least two agents selected from the group consisting of chemical, biological, radiological, explosive, human, and contraband agents;	118. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case have a plurality of sensors for detecting at least one of a chemical, biological, radiological, nuclear, explosive and contraband agents and compounds which are capable of being disposed within the cell phone, the smart phone, or the cell phone detector case.
The SIN-VAPOR ideally allows a sensor to separately identify chemical compounds and gasses in different mixtures, such as TNT, ammonium and carbon dioxide. In addition to detecting chemical weapons or explosives, the sensor can be used for identifying biological agents Dr. Christopher Field, the lead NRL scientist on the SiN-VAPOR research team is working with the NRL's biological research group to apply the sensor in this area.	comprising a built-in sensor array or fixed detection device into the product that detects agents by means of two or more sensors combined from the following list of sensors: a chemical sensor, a biological sensor, an explosive sensor, a human sensor, a contraband sensor, and a radiological sensor	118. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case have a plurality of sensors for detecting at least one of a chemical, biological, radiological, nuclear, explosive and contraband agents and compounds which are capable of being disposed within the cell phone, the smart phone, or the cell phone detector case.

By using easily produced super-small components, the devices potentially can be installed in a variety of devices, such as smartphones, robots or commercial appliances. Another goal is to install a sensor on a Google Nexus 7 tablet computer and conduct some wireless sensor networking. Fields explain, adding that the final form factor for the complete sensor will be smaller and likely to be integrated in other handheld or wearable devices.	comprising a communication device of at least one of a cell phone, a smart phone, a desktop, a handheld, a PDA, a laptop, or a computer terminal for monitoring products, interconnected to a built-in sensor array or fixed detection device for communication therebetween;	118. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case have a plurality of sensors for detecting at least one of a chemical, biological, radiological, nuclear, explosive and contraband agents and compounds which are capable of being disposed within the cell phone, the smart phone, or the cell phone detector case.
Touch ID is a fingerprint recognition feature, designed and released by Apple Inc., and is currently available on the iPhone 5S, iPhone 6, iPhone 6 Plus, iPhone 6s, iPhone 6s Plus, iPad Air 2, iPad Pro, and the iPad Mini 3 and iPad Mini 4. Android Marshmallow is here. There are battery life improvements, greater app permission controls, and standardized support for fingerprint scanners. Right now the Nexus 5, Nexus 6, Nexus 7 (2013), Nexus 9, Nexus Player and the whole range of Android One smartphones are getting the latest Android update.	wherein the communication device is equipped with a biometric lock disabler that incorporates at least one of a fingerprint recognition, voice recognition, face recognition, hand geometry, retina scan, iris scan and signature such that the communication device that is at least one of the cell phone, the smart phone, the desktop, the handheld, the PDA, the laptop or the computer terminal is locked by the biometric lock disabler to prevent unauthorized use;	122. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case are designed to be used with biometrics for authentication and identification, with at least one of a fingerprint recognition, voice recognition, face recognition, hand geometry, retina scan, iris scan, heart rate, pulse or signature, thereby allowing access to the product by authorized, trained, and equipped individuals and preventing access to the product by unauthorized, untrained, and unequipped individuals.

One way to obtain ubiquitous sensing would be to install the SiN-VAPOR arrays in mobile devices. A smartphone already has microphones and cameras—its ears and eyes. Installing this capability into a mobile device effectively turns it into a multipurpose sensor. "Is it TNT from a land mine, an IED [improvised explosive device] or is it TNT from the packaging of bullets? You want to be able to distinguish from these different things," Field states. The sensor ideally allows a sensor to separately identify chemical compounds and gasses in different mixtures, such as TNT, ammonium and carbon dioxide, while factoring in environmental issues such as humidity. There is a great deal of literature for using silicon-based structures as biosensors. Using the sensors in medical applications, exist as well. The devices potentially can be installed in a variety of devices, such as smartphones. Goal is to install a sensor on a Google Nexus 7 tablet computer.	wherein the built-in embedded multi sensor detection device receives a signal via any of one or more products listed in any of the plurality of product grouping categories; and	124. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case have products to be monitored, the devices that are monitoring, communication devices, communication equipment can be grouped into anti-terrorist product groupings based on the categories of similarities of design of at least one of: sensors, software, interfaces, detector cases, locks, mobile communication devices, handheld communication devices...; similarities in material composition of at least one of: steel, stainless steel, composites, brass, copper, aluminum, fiber, silicon, plastic, combining of materials parts or elements to form a whole; similarities in security problems of at least one of: theft, detection for chemical, biological, radiological, nuclear, explosive compounds and agents, detection for weapons of mass destruction, biometrics for identifying terrorist, scanning to identify a terrorist threat; grouping security devices to form a network of ubiquitous sensing and detecting.

Dr. Chris Field explains in a video for Tech Briefs TV, the SiN-VAPOR sensor is about the size of a quarter and could be attached to mobile devices, like smartphones, and carried onto the battlefield. "If every soldier has the sensors, and are on a communication network such as a cell phone, they can all talk to each other," Field says. "All the sensors can communicate with each other and you can begin to map the area from a chemical [perspective]." This capability has widespread potential for both military and civilian applications, including biochemical and biomedical applications and sensing of chemical and biological agents, explosives, and toxic industrial chemicals.	wherein, when an alarm occurs, the built-in, embedded multi sensor detection system communicates the alarm by way of at least one of the products grouped together by common features in the product groupings category of design similarity (i.e. product-to-product, product-to-satellite, product-to-cellular, product-to-long or short range radio frequency, product-to-radio frequency (RF), product-to-internet, product-to-broadband, product-to-smartphone or cell phone, product-to-computer at monitoring site, product-to-WiFi, product-to-handheld, or product-to-laptop or desktop) for communication therebetween;	108. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case can be adapted or incorporated with cell phone towers and satellites for use with at least one of satellite communication, a cell tower, wi-fi, wi-max, broadband, GPS, navigation, radio frequency (RF) chips, radio frequency (RF) sensors, radio frequency (RF) transceivers, and radio frequencies for short and long range transmissions interconnected to a central processing unit (cpu).

The sensors based on SiN-VAPOR is embedded on a silicon chip that is able to integrate in other handheld devices such as wrist watches, smartphones, motion detectors, unattended ground sensors or wearable communications systems. Such devices could be integrated into the warfighters' and first responders' gear, such sensors could be networked into a persistent, distributed sensor network that could monitor the operating area, airport or protected facilities at all time. Fields explain, "the sensor will be integrated in other handheld or wearable devices". According to Field, the SiN-VAPOR technology could help soldiers, first responders, firefighters, and medical professionals. Improving situational awareness by monitoring the environment, reporting the concentration of toxic fumes or chemical traces that could indicate the presence of explosives, chemical warfare agents, toxic fumes etc.	wherein the built-in embedded multi sensor detection device is implemented by business or government at a minimum cost by products grouped together by common features in at least one of several product groupings of design similarity	124. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case have products to be monitored, the devices that are monitoring, communication devices, communication equipment can be grouped into anti-terrorist product groupings based on the categories of similarities of design of at least one of: sensors, software, interfaces, detector cases, locks, mobile communication devices, handheld communication devices...; similarities in material composition of at least one of: steel, stainless steel, composites, brass, copper, aluminum, fiber, silicon, plastic, combining of materials parts or elements to form a whole; similarities in security problems of at least one of: theft, detection for chemical, biological, radiological, nuclear, explosive compounds and agents, detection for weapons of mass destruction, biometrics for identifying terrorist, scanning to identify a terrorist threat; grouping security devices to form a network of ubiquitous sensing and detecting.

Smartphone (iPhone) Microscope	Patent #: 9,096,189; Independent Claim 7	Patent #: RE 43,990; Dependent Claims
"Smartphone Microscope". Aydogan Ozcan, a professor at UCLA and his team have created a portable smartphone attachment that can be used to perform sophisticated field testing to detect viruses and bacteria. Optical methods for imaging single biomolecules allow for exploration of their individual behavior and properties at nanoscale, significantly advance our knowledge of molecular biology and biophysics. Funding support for the Ozcan Research Group comes from the Army Research Office, the National Science Foundation, the National Institutes of Health, and the Office of Naval Research. Commercialize through Holomic LLC	A multi-sensor detection system for detecting at least one explosive, nuclear, contraband, chemical, biological, human, or radiological agents and compounds, comprising:	118. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case have a plurality of sensors for detecting at least one of a chemical, biological, radiological, nuclear, explosive and contraband agents and compounds which are capable of being disposed within the cell phone, the smart phone, or the cell phone detector case.
Optical methods for imaging single biomolecules allow for exploration of their individual behavior and properties at nanoscale, which not only significantly advance our knowledge of molecular biology and biophysics but also provide various diagnostics opportunities for biomedical applications.	a plurality of sensors for detecting at least one chemical, biological, radiological, explosive, nuclear, human or contraband agents and compounds and capable of being disposed within, on, upon or adjacent a multi sensor detection device;	118. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case have a plurality of sensors for detecting at least one of a chemical, biological, radiological, nuclear, explosive and contraband agents and compounds which are capable of being disposed within the cell phone, the smart phone, or the cell phone detector case.

Weighing 46 grams — approximately as much as a large egg — the microscope is a self-contained imaging device. The only external attachments necessary are a USB connection to a smart-phone, PDA or computer, which supplies the microscope with power and allows images to be uploaded for conversion into results and then sent to a hospital.	monitoring equipment comprising at least one of plurality product groups based on the categories of a computer, laptop, notebook, PC, handheld, cell phone, PDA or smart phone for the receipt and transmission of signals therebetween;	17. The communication device [of claim 11] wherein the communication device has monitoring equipment to include but not to be limited to computers, laptops, notebooks, PC's, and cell phones for the receipt and transmission of signals therebetween.
Cellular carriers have extremely precise GPS measurements of the locations of all their towers. With a database of such towers, you can take measurements of the signal strength of those within range—which may be dozens—and trilateration to find an area that overlaps among them. Apple uses AGPS for native GPS-lock improvements, and Wi-Fi network and cell tower locations are additional factors in providing a fast initial connection along with improving GPS accuracy.	at least one cell phone tower interconnected to the monitoring equipment for sending signals thereto and receiving signals therefrom or at least one satellite capable of transmitting signals to the monitoring equipment;	92. The multi-sensor detection system [of claim 81], further comprising a global positioning system (GPS) receiver adapted for communication with at least one satellite.

The microscope can operate in a transmission mode. Although the sensor captures raw data, a computer is required to reconstruct the images. Workers in the field could use their laptops to process the information or send it over the Internet or mobile phone networks (e.g. cell phone towers) to a remote server. Mobile phones could also have sufficient processing power to do the analysis on the spot. "We are replacing an expensive and bulky, heavy component with computer codes," says Aydogan Ozcan,	at least one satellite or at least one cell phone tower capable of signal communication between the multi sensor detection device and the monitoring equipment;	25. The communication device [of claim 11] wherein the communication device has at least one of a Bluetooth connection, a Wi-Fi connection, a short and long range radio frequency connection, a Cellular connection, a satellite connection, and a GPS connection.
A software interface running on the smartphone scans the DNA and sends the data to a remote server in the team's laboratory. The servers use the data to measure the length of the DNA strands, and return the results in less than 10 seconds, assuming users have access to an internet connection.	at least one internet connection capable of communication between the multi sensor detection device and the monitoring equipment;	12. The communication device [of claim 11] wherein each communication device includes at least one of an internet connection, a GPS connection, a radio frequency (RF) connection, or a central processing unit (cpu).
Cellular carriers have precise GPS measurements of locations of all their towers. With a database of such towers, you can take measurements of the signal strength of those within range and trilateration to find an area that overlaps among them. Apple uses AGPS for native GPS-lock improvements, and Wi-Fi network and cell tower locations are additional factors in providing a fast connection along with improving GPS accuracy.	whereupon a signal sent to a receiver of the multi sensor detection device from a satellite; or to a cell phone tower; or through short and/or long range radio frequency; causes a signal to be sent to the monitoring equipment that includes location data and sensor data;	92. The multi-sensor detection system [of claim 81], further comprising a global positioning system (GPS) receiver adapted for communication with at least one satellite.

Translation of these and other existing imaging techniques to field-portable, cost-effective and high-throughput instruments would open up a myriad of new applications in, e.g., point-of-care (POC) medicine, global health and diagnostics fields, among others, and would also positively impact research and educational efforts in developing countries and resource-limited institutions, helping the democratization of advanced scientific instruments and measurement tools. For this broad aim, mobile phones and other consumer electronics devices, including, e.g., tablet PCs and wearable computers, have been emerging as powerful platforms to create cost-effective, portable and readily accessible alternatives to some of the advanced biomedical imaging and measurement tools.	wherein the monitoring equipment or multi sensor detection device receives a signal via any of one or more products listed in any of the plurality of product grouping categories;	124. The multi-sensor detection system [of claim 103] wherein the cell phone, the smart phone, and the cell phone detector case have products to be monitored, the devices that are monitoring, communication devices, communication equipment can be grouped into anti-terrorist product groupings based on the categories of similarities of design of at least one of: sensors, software, interfaces, detector cases, locks, mobile communication devices, handheld communication devices...; similarities in material composition of at least one of: steel, stainless steel, composites, brass, copper, aluminum, fiber, silicon, plastic, combining of materials parts or elements to form a whole; similarities in security problems of at least one of: theft, detection for chemical, biological, radiological, nuclear, explosive compounds and agents, detection for weapons of mass destruction, biometrics for identifying terrorist, scanning to identify a terrorist threat; grouping security devices to form a network of ubiquitous sensing and detecting.

A software interface running on the smartphone scans the DNA and sends the data to a remote server in the team's laboratory. The servers use the data to measure the length of the DNA strands, and return the results in less than 10 seconds, assuming users have access to an internet connection.	wherein at least one satellite connection, Bluetooth connection, WiFi connection, internet connection, radio frequency (RF) connection, cellular connection, broadband connection, long and short range radio frequency (RF) connection is capable of signal communication with the transmitter and the receiver of the monitoring equipment or multi sensor detection device and transceivers of the products;	12. The communication device [of claim 11] wherein each communication device includes at least one of an internet connection, a GPS connection, a radio frequency (RF) connection, or a central processing unit (cpu).
iPhone and iPad Touch ID is a seamless way to use your fingerprint as a passcode. Your fingerprint is one of the best passcodes in the world. With just a touch of your device's Home button, the Touch ID sensor quickly reads your fingerprint and automatically unlocks your phone.	wherein the monitoring equipment is equipped with a biometric lock disabler that incorporates at least one of a fingerprint recognition, voice recognition, face recognition, hand geometry, retina scan, iris scan and signature such that the monitoring device that is at least one of the computer, the laptop, the notebook, the PC, the handheld, the cell phone, the PDA, or the smart phone is locked by the biometric lock disabler to prevent unauthorized use;	99. The multi-sensor detection system [of claim 81], wherein the multi sensor detection device is capable of transmitting biometric and authentication data including, but is not limited to, fingerprint recognition, voice recognition, face recognition, hand geometry, retina scan, iris scan, heart rate, pulse and signature.
A software interface running on the smartphone scans the DNA and sends the data to a remote server in the team's laboratory. The servers use the data to measure the length of the DNA strands, and return the results in less than 10 seconds, assuming users have access to an internet connection.	wherein the only type or types of communication with the transmitter and the receiver of the communication device and transceivers of the products is a type or types selected from the group consisting of satellite, Bluetooth, WiFi, internet, radio frequency (RF), cellular, broadband, and long and short range radio frequency (RF).	12. The communication device [of claim 11] wherein each communication device includes at least one of an internet connection, a GPS connection, a radio frequency (RF) connection, or a central processing unit (cpu).

Samsung Galaxy s6 "BioPhone"	Patent #: 9,096,189; Independent Claim 1	Patent #: RE 43,990; Dependent Claims
A Samsung Galaxy s6 "BioPhone" smartphone can measure your heart and breathing rates, even if you're not directly touching it. Researchers at MIT are working on a project called BioPhone that derives biological signals from your smartphone's accelerometer, which they say can capture the small movements of your body that result from the beating of your heart and rising and falling of your chest. This information is useful to base medical diagnoses in real-life conditions and to help track chronic health conditions and effects of therapeutic interventions. Research is based upon work supported by the National Science Foundation (NSF CCF-1029585), Samsung, and the MIT Media Lab Consortium.	A communication device of at least one of a cell phone, a smart phone, a desktop, a handheld, a PDA, a laptop, or a computer terminal for monitoring products, interconnected to a product for communication therebetween, comprising:	18. The communication device [of claim 11] wherein the communication device having a basic monitoring terminal can be adapted and incorporated to include desktop computers, notebook, PC's, laptops, cell phones, smart phones, LCD monitors, and satellite monitoring.
Samsung Galaxy s6 CPU (Central Processing Unit) - otherwise known as a processor - is an electronic circuit that can execute computer programs. Modern microprocessors appear in everything from automobiles to mobile phones. Quad-core 1.5 GHz Cortex-A53 & Quad-core 2.1 GHz Cortex-A57	at least one of a central processing unit (CPU) for executing and carrying out the instructions of a computer program, a network processor which is specifically targeted at the networking application domain, or a front end processor for communication between a host computer and other devices;	12. The communication device [of claim 11] wherein each communication device includes at least one of an internet connection, a GPS connection, a radio frequency (RF) connection, or a central processing unit (cpu).